On page 9, line 25, delete the heading "BEST MODE FOR CARRYING OUT THE INVENTION" and replace it with - - DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS - -

IN THE CLAIMS:

Please cancel claims 1-19 without prejudice and add new claims 20-46 as follows:

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20. (New) A porous silicon carbide sinter having a structure formed by silicon carbide crystals that includes opened pores, wherein the porous sinter has a silicon carbide crystal average grain diameter of 20 μm or greater, a porosity of 40% or less, and a thermal conductivity of 80W/m K or more.

21. (New) The porous silicon carbide sinter according to claim 20, wherein the silicon carbide crystals include 10vol% to 50vol% of fine silicon carbide crystals, which have an average grain diameter of 0.1μm to 1.0μm, and 50vol% to 90vol% of rough silicon carbide crystals, which have an average grain diameter of 25μm to 150μm.

22. (New) The porous silicon carbide sinter according to claim 20, wherein the sinter forms a part of a wafer grinder.

23. (New) The porous silicon carbide sinter according to claim 20, wherein the sinter forms a plurality of bonded base materials that are part of a wafer grinder table, wherein the table is for grinding semiconductor wafers held on a wafer holding plate, and the table includes a fluid passage formed in a bonding interface

of the base materials.

24. (New) A porous silicon carbide sinter having a structure formed by silicon carbide crystals that includes opened pores, wherein the porous sinter has a silicon carbide crystal average grain diameter of 20μm to 100μm, a porosity of 5% to 30%, and a thermal conductivity of 80W/m K or more.

25. (New) The porous silicon carbide sinter according to claim 24, wherein the silicon carbide crystals include 10vol% to 50vol% of fine silicon carbide crystals, which have an average grain diameter of 0.1μm to 1.0μm, and 50vol% to 90vol% of rough silicon carbide crystals, which have an average grain diameter of 25μm to 150μm.

26. (New) The porous silicon carbide sinter according to claim 24, wherein the sinter forms a part of a wafer grinder.

27. (New) The porous silicon carbide sinter according to claim 24, wherein the sinter forms a plurality of bonded base materials that are part of a wafer grinder table, wherein the table is for grinding semiconductor wafers held on a wafer holding plate, and the table includes a fluid passage formed in a bonding interface of the base materials.

28. (New) A method for manufacturing a porous silicon carbide sinter having a structure formed by silicon carbide crystals that includes opened pores, wherein the porous silicon carbide sinter has a silicon carbide crystal average grain diameter of 20μm or greater, a porosity of 30% or less, and a thermal conductivity of 80W/m K or more, the method comprising:

adding 10 parts by weight to 100 parts by weight of a fine powder of α

silicon carbide having an average grain diameter of 0.1 μm to 1.0 μm to 100 parts by weight of a rough powder of α silicon carbide having an average grain diameter of 5 μm to 100 μm and uniformly mixing the rough powder and the fine powder; and

molding a mixture obtained in the mixing step into a predetermined shape to produce a molded product; and sintering the molded product within a temperature range of 1700°C to 2400°C to produce a sinter.

A1 cont.

29. (New) A silicon carbide-metal composite having a porous structure formed by silicon carbide crystals that includes opened pores, wherein the opened pores are impregnated with metal, wherein the silicon carbide-metal composite has a silicon carbide crystal average grain diameter of 20μm or greater, a porosity of 30% or less, and a thermal conductivity of 160W/m K or more, and wherein 100 parts by weight of silicon carbide is impregnated with 15 parts by weight to 50 parts by weight of metal.

30. (New) The silicon carbide-metal composite according to claim 29, wherein 100 parts by weight of silicon carbide is impregnated with 15 parts by weight to 45 parts by weight of metal silicon to form the composite.

31. (New) The silicon carbide-metal composite according to claim 29, wherein 100 parts by weight of silicon carbide is impregnated with 20 parts by weight to 50 parts by weight of metal aluminum to form the composite.

32. (New) The silicon carbide-metal composite according to claim 29, wherein the silicon carbide crystals include 10vol% to 50vol% of fine silicon carbide crystals, which have an average grain diameter of 0.1μm to 1.0μm, and 50vol% to 90vol% of rough silicon carbide crystals, which have an average grain

diameter of 25 μm to 150μm.

33. (New) The silicon carbide-metal composite according to claim 29, wherein the composite forms a part of a wafer grinder.

34. (New) The silicon carbide-metal composite according to claim 29, wherein the composite forms a plurality of bonded base materials that are part of a wafer grinder table, wherein the table is for grinding semiconductor wafers held on a wafer holding plate, and the table includes a fluid passage formed in a bonding interface of the base materials.

35. (New) A silicon carbide-metal composite having a porous structure formed by silicon carbide crystals that includes opened pores, wherein the opened pores are impregnated with metal, wherein the silicon carbide-metal composite has a silicon carbide crystal average grain diameter of 20μm to 100μm, a porosity of 5% to 30%, and a thermal conductivity of 160W/m K or more, and wherein 100 parts by weight of silicon carbide is impregnated with 15 parts by weight to 50 parts by weight of metal.

36. (New) The silicon carbide-metal composite according to claim 35, wherein 100 parts by weight of silicon carbide is impregnated with 15 parts by weight to 45 parts by weight of metal silicon to form the composite.

37. (New) The silicon carbide-metal composite according to claim 35, wherein 100 parts by weight of silicon carbide is impregnated with 20 parts by weight to 50 parts by weight of metal aluminum to form the composite.

38. (New) The silicon carbide-metal composite according to claim 35,

wherein the silicon carbide crystals include 10vol% to 50vol% of fine silicon carbide crystals, which have an average grain diameter of 0.1μm to 1.0μm,. and 50vol% to 90vol% of rough silicon carbide crystals, which have an average grain diameter of 25 μm to 150 μm.

39. (New) The silicon carbide-metal composite according to claim 35, wherein the composite forms a part of a wafer grinder.

40. (New) The silicon carbide-metal composite according to claim 35, wherein the composite forms a plurality of bonded base materials that are part of a wafer grinder table, wherein the table is for grinding semiconductor wafers held on a wafer holding plate, and the table includes a fluid passage formed in a bonding interface of the base materials.

41. (New) A method for manufacturing a silicon carbide-metal composite having a porous structure formed by silicon carbide crystals that includes opened pores, wherein 100 parts by weight of silicon carbide is impregnated with 15 parts by weight to 50 parts by weight of metal in the opened pores, the average grain diameter of the silicon carbide crystals is 20μm or greater, the porosity is 30% or less, and the thermal conductivity is 160W/m K or greater, the method comprising the steps of:

adding 10 parts by weight to 100 parts by weight of a fine powder of α silicon carbide having an average grain diameter of 0.1μm to 1.0μm to 100 parts by weight of a rough powder of α silicon carbide having an average grain diameter of 5μm to 100μm and uniformly mixing the rough powder and the fine powder;

molding a mixture produced in the mixing step into a predetermined shape to produce a molded product;

sintering the molded product within a temperature range of 1700°C to

2400°C to produce a sinter; and

impregnating the molded product or the sinter with metal.

42. (New) The method for manufacturing a silicon carbide-metal composite according to claim 41, wherein 1wt% to 10wt%, in carbon weight converted value, of an organic substance serving as a carbide source is added to the molded product.

43. (New) A wafer grinder table having a grinding surface for grinding a semiconductor wafer held on a wafer holding plate, the table including:

a plurality of base materials, each of which is a ceramic-metal composite formed by impregnating metal silicon in opened bores of a porous body made of silicon-containing ceramic;

a bonding layer formed from the metal silicon to bond the base materials; and

a fluid passage formed in a bonding interface of the base materials.

44. (New) The wafer grinder table according to claim 43, wherein, in the ceramic-metal composite, the porous body includes silicon carbide crystals with an average grain diameter of 20μm to 100μm, has a porosity of 10% to 50%, and has a thermal conductivity of 160W/m·K or more, and wherein 100 parts by weight of silicon carbide is impregnated with 15 parts by weight to 50 parts by weight of the metal silicon.

45. (New) The wafer grinder table according to claim 44, wherein the silicon carbide crystals include 10vol% to 50 vol% of fine silicon carbide crystals, which have an average grain diameter of 0.1μm to 1.0μm and 50vol% to 90vol% of rough silicon carbide crystals, which have an average grain diameter of 25μm to 150μm.